Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1 (currently amended): A method for determining an intraperitoneal volume during peritoneal dialysis, ~~which~~ comprising the steps of

passing peritoneal solution from a peritoneal cavity in a first circuit adjacent a first side of a semipermeable membrane;

passing dialyzing fluid in a second circuit adjacent a second side of the semipermeable membrane;

measuring the concentration of an endogenous substance that passes through a peritoneum into the peritoneal solution in the peritoneal cavity; and

determining the intraperitoneal volume from the variation in the concentration over time.

2 (currently amended): The method according to claim 1, wherein the measuring step further comprises:

measuring the concentration c_0 of the endogenous substance in the peritoneal solution at a time t_1;

withdrawing or delivering a predetermined volume ΔV of fluid in the first circuit;

measuring the concentration c_1 ~~the~~ of the endogenous substance in the peritoneal solution at a time t_2; and

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wherein the determining step further comprises:

determining the intraperitoneal volume from the equation:

$$V = \frac{\Delta V}{1 - c_0 / c_i}$$

3 (original): The method according to claim 2, which further comprises the step of:

determining an ultrafiltration rate $V(t_1)/t_1$ from the variation in intraperitoneal

volume in the time $t_1 - t_2$;

withdrawing fluid from the first circuit at the ultrafiltration rate.

4 (original): The method according to claim 3, which further comprises the step of:

determining continuously the variation in intraperitoneal volume during

peritoneal dialysis for determination of the ultrafiltration rate.

5 (original): The method according to claim 1, wherein the endogenous substance is

albumin.

6 (withdrawn): An apparatus for peritoneal dialysis comprising:

a dialyzing fluid source;

a dialyzer, the dialyzer divided by a semipermeable membrane into a first

compartment and a second compartment, where the first compartment is part of a

first circuit for peritoneal solution and the second compartment is part of a second

circuit for dialyzing fluid;

a balancer for withdrawing or delivering fluid in the first circuit;

a measuring unit configured to determine the concentration of an endogenous substance in the peritoneal solution, which during peritoneal dialysis passes through the peritoneum into the peritoneal cavity; and

a calculating and evaluation unit configured to determine the intraperitoneal volume from a variation in concentration of the endogenous substance.

7 (withdrawn): The apparatus according to claim 6, further comprising:

a control unit for controlling the balancer, the measuring unit, and the calculating and evaluation unit;

wherein the control unit controls the measuring unit such that a first concentration c_0 of the endogenous substance in the peritoneal solution is measured at time t_1, and a second concentration c_1 of the endogenous substance in the peritoneal solution is measured at time t_2; and

wherein the control unit controls the balancer such that between time t_1 and time t_2 a predetermined volume ΔV of fluid is withdrawn or delivered in the first circuit.

8 (withdrawn): The apparatus according to claim 7, wherein the control unit controls the calculating and evaluation unit to determine the intraperitoneal volume from the concentrations c_0 and c_1 and the volume ΔV.

9 (withdrawn): The apparatus according to claim 7, wherein the calculating and evaluation unit is configured to determine a ultrafiltration rate $V(t_1)/t_1$ from the variation in intraperitoneal volume in the time period from time t_1 to time t_2, and wherein the control unit controls the balancer to withdraw or deliver fluid in the first circuit at the ultrafiltration rate.

10 (withdrawn): The apparatus of claim 6, wherein the endogenous substance is albumin.